

REMARKS

In response to the final Office Action of June 7, 2007, applicant asks that all claims be allowed in view of the amendments to the claims and the following remarks.

Claims 5-12, 18-22 and 29-63 are pending, of which claims 5, 10, 18, 29 and 34 are independent. Claim 49 has been amended and claims 54-63 have been added. Support for claims 54-58 can be found in the application, for example, in Fig. 1. Support for claims 59-63 can be found in the application, for example, at page 26, line 15. No new matter has been introduced.

Claim Rejections—35 U.S.C. § 112

Claim 49 has been rejected under 35 U.S.C. §112, second paragraph as being indefinite. Claim 49 has been amended to recite “the transistor of the pixel” to more clearly identify the transistor to which the switching thin film transistor is being electrically connected. In view of this amendment, applicant requests reconsideration and withdrawal of the rejection of claim 49.

Claim Rejections—35 U.S.C. § 103

Claims 5, 7-10, 12, 18-20, 22-26, 28-31, 33-37, 39-53

Claims 5, 7-10, 12, 18-20, 22-26, 28-31, 33-37, 39-53 have been rejected under 35 U.S.C. § 103 as being unpatentable over Kim (U.S. Patent No. 6,265,833) in view of Ikeda (U.S. Patent No. 5,714,968), and further in view of Yamauchi (U.S. Patent No. 6,853,083). Applicant requests reconsideration and withdrawal of this rejection for the reasons set forth below.

Independent claim 5 recites a display system that includes, among other features, a plurality of pixels, each of which includes at least a transistor and an EL element having first and second electrodes, and a voltage changer for changing a potential applied to the EL element based on a correction signal. The voltage changer is electrically connected to the second electrode of the EL element via a switch, and the first electrode of the EL element is electrically connected to a power supply line via the transistor of the pixel including the EL element.

The rejection of claim 5 and its dependent claims should be withdrawn because neither Kim, Ikeda, Yamauchi, nor any proper combination of the three describes or suggests a voltage changer electrically connected to the second electrode of the EL element via a switch, or that the first electrode of the EL element is connected to a power supply line via the transistor of the pixel including the EL element, as recited in claim 5.

With respect to the voltage changer electrically connected to the second electrode of the EL element via a switch, the rejection concedes that Kim does not disclose this feature, and contends that Ikeda does so in Fig. 10. Applicant respectfully disagrees.

Ikeda illustrates an active matrix display device including adjacent drive circuits. See Ikeda at col. 9, lines 17-21 and Fig. 10. The active matrix display device includes EL elements (20,21), field-effect transistors (22,23), constant current circuits (24, 25), capacitors (26,27), switching transistors (28,29), a data line (32), a common electrode (33), and a resistor (34). See Ikeda at col. 9, lines 22-32; Fig. 10. While the rejection contends that the resistor (34) connected to the EL element (21) described by Ikeda corresponds to the voltage changer recited in independent claim 5, the resistor disclosed by Ikeda does not change a potential applied to the EL element based on a correction signal, as required by independent claim 5. More specifically, there is no teaching by Ikeda that the resistance level of the resistor (34) is adjustable and, therefore, the resistor (34) cannot correspond to the voltage changer recited in independent claim 5.

Nor is the resistor (34) connected to a second electrode of the EL element via a switch, as required by independent claim 5. While the rejection contends that the field-effect transistor (22) described by Ikeda corresponds to the switch, Ikeda does not disclose that the field-effect transistor (22) is a switch, nor does the field-effect transistor (22) connect the EL element (21) to the resistor (34). Therefore, the field-effect transistor (22) cannot correspond to the switch recited in independent claim 5.

With respect to the first electrode of the EL element being connected to a power supply line via the transistor of the pixel including the EL element, the rejection recognizes that Kim in view of Ikeda does not disclose this feature, and contends that Yamauchi does so in Fig. 4, and that it would have been obvious to one of ordinary skill in the art to combine the feature of connecting the first electrode of the EL element to a power supply line via a transistor described

in Yamauchi to the active matrix display device of Kim in view of Ikeda. Applicant respectfully disagrees.

Yamauchi illustrates an organic EL display device with drive circuits (408, 409), power supply lines (403₁, 403₂ ...), switching transistors (404₁, 404₂, 404₃ ...), current control transistors (405₁, 405₂, 405₃ ...), EL elements (406₁, 406₂, 406₃ ...), and capacitors (407₁, 407₂, 407₃ ...). See Yamauchi at col. 7, lines 17-26; Fig. 4. For one pixel in the organic EL display device, the EL element 406₁ is connected to a current control transistors 405₁ in serial and the current control transistors 405₁ is further connected to the power supply lines 403₁ in serial. See Yamauchi at Fig. 4. Yamauchi explains that the transistors are connected to the respective EL elements for controlling the luminance of the respective EL element by controlling the current applied to the EL element. See Yamauchi at Abstract.

However, the active matrix display device of Kim in view of Ikeda has an EL element (21) that is directly connected to a constant current circuit (25) and that is in parallel with a field-effect transistor (23). See Ikeda at Fig. 10. This circuit design allows the voltage of a data line (32) to control the luminance of the EL element (21) without influence from other circuit elements. See Ikeda at col. 9, lines 44-51. Therefore, combining the feature of connecting the first electrode of the EL element to a power supply line via a transistor described in Yamauchi to the active matrix display device of Kim in view of Ikeda would frustrate the purpose of the active matrix display device to allow the voltage of a data line (32) to control the luminance of the EL element (21) without influence from other circuit elements. Accordingly, one of ordinary skill in the art would have been dissuaded from combining the feature of connecting the first electrode of the EL element to a power supply line via a transistor described in Yamauchi to the active matrix display device of Kim in view of Ikeda.

Moreover, while the rejection indicates that one of ordinary skill in the art would have employed Yagauchi's transistor to prevent short circuit and disconnection in the EL display device in order to promote high reliability of the display device as taught by Yamauchi at col. 1, lines 54-61, this is an improper characterization of what Yamauchi describes. In particular, Yamauchi describes the use of particular barrier metal layers as addressing the problems of short circuits and disconnections, and in no way indicates that these benefits result from the use of a

transistor. Indeed, the very passage cited in the rejection notes the short-circuits and disconnections are due to the elusion of the barrier metal material of the thin film transistor.

For at least these reasons, applicant requests reconsideration and withdrawal of the rejection of independent claim 5 and its dependent claims 6, 7-9, 40, 45, 49, 54, and 59.

Similarly to claim 5, independent claims 10, 18, 29 and 34 each recite a display system or device including a voltage changer that is electrically connected to an electrode of the EL element via a switch, with another electrode of the EL element connected to a transistor of the pixel including the EL element. Accordingly, for at least the reasons described above with respect to independent claim 5, applicant requests reconsideration and withdrawal the rejection of independent claims 10, 18, 29 and 34 and their dependent claims 12, 19, 20, 22, 30, 31, 33, 35-37, 39, 41-44, 46-48, 50-53, 55-58, and 60-63.

Claims 6, 11, 21, 32, and 38

Claims 6, 11, 21, 32, and 38 have been rejected under 35 U.S.C. § 103 as being unpatentable over Kim in view of Ikeda and Yamauchi, and further in view of Poulton (U.S. Patent No. 5,702,323). Applicant requests reconsideration and withdrawal of this rejection because Poulton, which is cited as showing an information signal that comprises a user's living body information, does not remedy the failure of Kim, Ikeda and Yamauchi to describe or suggest the subject matter of the independent claims.

New Claims

Claims 54-63

New claims 54-63 depend from independent claims 5, 10, 18, 29, and 34. Accordingly, because of their dependencies and the reasons discussed above in connection with independent claims 5, 10, 18, 29, and 34, applicant submits that claims 54-63 are allowable.

In addition, claims 54-58 recite a switch provided in an external portion. The alleged switch of Ikeda, the field-effect transistor (22), is provided inside of the active matrix display device. See Ikeda at Fig. 10. Therefore, applicant submits that claims 54-58 are allowable for at least this additional reason.

Conclusion

Applicants submit that all claims are in condition for allowance.

It is believed that all of the pending issues have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this reply should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this reply, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

The fees in the amount of \$1,570 for the two month extension of time (\$460), six (6) extra dependent claims (\$300) and request for continued examination fee (\$810) are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 10/31/07



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